

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Lake Charles Complex – Derivatives Docks
PPG Industries, Inc.
Lake Charles, Calcasieu Parish, Louisiana
Agency Interest Number: 1255
Activity Number: PER19960007
Proposed Permit Number: 2206-V0**

I. APPLICANT

Company:
PPG Industries
P. O. Box 1000
Lake Charles, LA 70602

Facility:
Lake Charles Complex – Derivatives Docks
1300 PPG Drive, Lake Charles, Calcasieu Parish, Louisiana
Approximate UTM coordinates are 472.5 kilometers East and 3,343.5 kilometers North in Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

PPG Industries, Inc.'s (PPG's) Lake Charles Complex is located at the intersection of I-10 and Loop I-210 near Westlake, Louisiana. The facility consists of three highly integrated business areas as described below.

- **Chlor/Alkali:** In this area, chlorine, caustic, and hydrogen are produced through the electrolysis of brine using diaphragm and mercury cell technology.
- **Derivatives:** In this area, chlorine is combined with ethylene and ethylene derivatives to produce chlorinated hydrocarbons and muriatic acid (hydrochloric acid).
- **Silicas:** In this area, sand is heated with either caustic or soda ash to produce sodium silicate, from which different grades of products are produced.

Electricity and steam required for the facility operations are produced in the Power/Utilities area. Transfer operations for raw materials and products involve the transfer to and from trucks, ships, barges, tank cars, hopper cars, and drums. Raw materials and products are also transferred via pipeline.

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The whole complex is now organized into the following permitting units/areas: VC Production, Power/Utilities, Silicas, Complex Support Facilities, Chlor/Alkali Plant, Mercury Cells, Derivatives Shipping, Derivatives Docks, Wastewater Treatment Facilities, Greater EDC, Waste Recovery Unit, Per/Tri, TE-2, and Incinerators Area.

The Lake Charles Complex is a designated Part 70 source. Several Part 70 permits have been issued to the operating units within the complex. These include:

Permit No.	Unit or Source	Date Issued
2085-V0	Silicas Unit	12/07/2005
897-V0	VC Production Unit	07/07/2005
2040-V0	Incinerators Area	02/21/2005
2695-V0	TE-2 Unit	02/21/2005
2350-V0	Greater EDC	02/21/2005
2216-V0	Waste Recovery Unit	06/29/2004
2798-V0	Chlor/Alkali Plant	04/15/2003
2229-V0	Derivatives Shipping Facility	04/05/1999
2106-V1	Power/Utilities	05/24/2002

The facility submitted timely applications for initial Part 70 permits for other units in the complex, which continuous to operate under the state permits listed below or under Grandfather status.

Permit No.	Unit or Source	Date Issued
2231	Mercury Cells	11/8/1993
2206	Derivatives Dock Facility	8/18/1993
2269	Wastewater Treatment Unit	7/21/1994
2270	Per/Tri Unit	7/21/1994
2297	North Dock Facility	2/2/1995
2359	Fuel Storage Tanks	12/27/1995
1476T (M-2)	Classifier and Derivatives Fugitives	6/7/1996
2454	DH Product Tank	2/12/1997
2597	Derivatives Dock Facilities	2/26/1999
2645	Per/Tri Unit – Storage Tank	11/9/1999
2521 (M-1)	Vapor Recovery Tanks	9/19/2000
2681	Per/Tri Unit Feed Tank	10/03/2000
2682	Emergency Generators	10/11/2000
2727	Per/Tri Unit Still Line Feed Tank	6/19/2001
2752	Abrasive Blast Booth	10/12/2001
2817	Tank 6301	9/20/2002

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Permit No.	Unit or Source	Date Issued
2828	Per/Tri Unit – Feed Tank	12/5/2002

In addition, PSD Permits PSD-LA-642 (11/23/1999) and PSD-LA-637 (M-1) (5/24/2002) and Acid Rain Permit 2646-IV0 (12/18/2000) were also issued to the complex.

III. PROPOSED PROJECT/PERMIT INFORMATION

Project

No project is proposed with this permit action.

Application

A permit application dated October 11, 1996 was submitted requesting a Part 70 operating permit for the Derivatives Docks. The application was subsequently revised on September 23, 2003 and December 21, 2004. The proposed permit is based on the application dated December 21, 2004.

Proposed Permits

Permit 2206-V0 will be the initial Part 70 operating permit for the Derivatives Docks. This proposed permit includes all related terms and conditions permitted under the state permits (Permit 2206, issued August 18, 1993, Permit 2297, issued February 2, 1995, Permit 2597, issued February 26, 1999, and Permit 2521 (M-1), issued September 21, 2000) for the Derivatives Docks.

Permitted Air Emissions

The proposed emission changes for the derivatives Docks are (in tons per year):

Pollutant	Before	After	Change
PM ₁₀	0.15	0.34	+ 0.19
SO ₂	0.03	0.03	-
NO _x	6.90	9.40	+ 2.50
CO	1.70	4.54	+ 2.84
VOC	39.77	18.73	- 21.04

No project is proposed for the Derivatives Docks. Emissions from the facility are recalculated with newly available information and an emissions cap (ND CAP) is added for emissions from the storage tanks in the Derivatives Docks area.

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Type of Review

The application was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAP). Prevention of Significant Deterioration (PSD) review does not apply.

Streamlined Equipment Leak Monitoring Program

It is required that the Derivatives Docks comply with a streamlined equipment leak monitoring program. Compliance with the streamlined program shall serve to comply with each of the fugitive emission monitoring programs being streamlined.

Fugitive emissions from the Derivatives Docks are subject to requirements of 40 CFR 63 Subpart H, 40 CFR 61 Subpart V, 40 CFR 60 Subpart VV, LAC 33:III.2122, and LAC 33:III.5109. Among these regulations, 40 CFR 63 Subpart H is the overall most stringent program. Therefore, fugitive emissions shall be monitored as required by this program (40 CFR 63 Subpart H).

Unit or Plant Site	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
Derivatives Docks	40 CFR 63 Subpart H – HON	≥ 5% VOHAP	40 CFR 63 Subpart H – HON
	40 CFR 61 Subpart V – NESHAP for Equipment Leaks	≥ 10% VCM	
	40 CFR 60 Subparts VV – NSPS for Equipment Leaks of VOC in SOCM1 or Refineries	≥ 10% VOC	
	LAC 33:III.2122 – Fugitive Emission Control for Ozone Nonattainment Areas and Specified Parish	≥ 10% VOC	
	LAC 33:III.5109 – Louisiana MACT Determination for Non-HON Sources	≥ 5% VOTAP	

MACT Requirements

The ST Ethylene Vaporizer is subject to 40 CFR 63 Subpart DDDDD – Industrial, Commercial and Institutional Boilers. However, this source is only required to comply with notification requirements of 40 CFR 63.9(b) per 40 CFR 63.7506(b)(1) since the vaporizer is an existing source and burns only gaseous fuels.

The storage vessels (EQT141 through EQT150 and EQT154 through EQT166) are subject to 40 CFR Part 63 Subpart G and are required to comply with all applicable requirements of this subpart.

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The ND Ship/Barge Loading (RLP019), which is an existing source with emissions less than 10 and 25 tons as defined in 40 CFR 63.561, is only subject to the recordkeeping requirements of 40 CFR 63.567(j)(4) and the emission estimation requirements of 40 CFR 63.565(l). A specific condition is included in the permit for the Derivative Docks to maintain the ND Ship/Barge Loading a source with emissions less than 10 and 25 tons. The loading material (EDC) routed to the Sorbathane Unit (RLP018) has a vapor pressure below 1.5 psia at standards conditions. Therefore, the loading operations of this material are not subject to 40 CFR Part 63, Subpart Y.

As indicated above (Streamlined Equipment Leak Monitoring Program), the fugitive emissions from the Derivatives Docks are under a streamlined equipment leak program. The fugitive emissions from this area shall be monitored as required by 40 CFR Part 63, Subpart H.

Air Quality Analysis

Since there is no project proposed with this permit action, air quality analysis is not conducted.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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IV. PERMIT SHIELDS

Per 40 CFR 60.6(f) and LAC 33:III.507.I, permit shields have been determined for the proposed permit. The details of the permit shield are given in the Permit Shield section of the proposed permit.

V. PERIODIC MONITORING

No additional periodic monitoring is required.

VI. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Disulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

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PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.